

- 1 - iAP20 Rec'd PCT/PTO 15 JUN 2006

## Sequence Listing

<110> Merck Patent GmbH

<120> DNA sequence, and recombinant preparation of group 4 major allergens from cereals

<130> P 03/239

<140> DE 10359351.9

<141> 2003-12-16

<160> 44

<170> PatentIn version 3.1

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1			5					10					15			

caa	gcc	gcc	gcg	gcc	gcc	tac	gcg	ccc	gtg	cct	gcc	aag	gcg	gac	ttc	96
Gln	Ala	Ala	Ala	Ala	Ala	Tyr	Ala	Pro	Val	Pro	Ala	Lys	Ala	Asp	Phe	
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ctc	gga	tgc	ctc	atg	aag	gag	ata	ccg	gcc	cgc	ctc	ctc	tac	gcc	aag	144
Leu	Gly	Cys	Leu	Met	Lys	Glu	Ile	Pro	Ala	Arg	Leu	Leu	Tyr	Ala	Lys	
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agc	tcg	cct	gac	tac	ccc	acc	gtg	ctg	gcg	cag	acc	atc	agg	aac	tcg	192
Ser	Ser	Pro	Asp	Tyr	Pro	Thr	Val	Leu	Ala	Gln	Thr	Ile	Arg	Asn	Ser	
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cgg	tgg	tcg	tcg	ccg	cag	aac	gtg	aag	ccg	atc	tac	atc	atc	acc	ccc	240
Arg	Trp	Ser	Ser	Pro	Gln	Asn	Val	Lys	Pro	Ile	Tyr	Ile	Ile	Thr	Pro	
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acc	aac	gcc	tcg	cac	atc	cag	tcc	gcg	gtg	gtg	tgc	ggc	cgc	cgg	cac	288
Thr	Asn	Ala	Ser	His	Ile	Gln	Ser	Ala	Val	Val	Cys	Gly	Arg	Arg	His	
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Gly	Ile	Arg	Leu	Arg	Val	Arg	Ser	Gly	Gly	His	Asp	Tyr	Glu	Gly	Leu	
			100					105					110			

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Ser	Tyr	Arg	Ser	Glu	Lys	Pro	Glu	Thr	Phe	Ala	Val	Val	Asp	Leu	Asn	
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Lys	Met	Arg	Ala	Val	Ser	Val	Asp	Gly	Tyr	Ala	Arg	Thr	Ala	Trp	Val	
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Glu	Ser	Gly	Ala	Gln	Leu	Gly	Glu	Leu	Tyr	Tyr	Ala	Ile	Ala	Lys	Asn	
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Ser	Pro	Val	Leu	Ala	Phe	Pro	Ala	Gly	Val	Cys	Pro	Ser	Ile	Gly	Val	

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Gly	Ile	Ala	Ala	Glu	Asn	Val	Ile	Asp	Val	Lys	Val	Val	Asp	Pro	Asn				
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Val	Arg	Gly	Gly	Gly	Gly	Glu	Ser	Phe	Gly	Ile	Val	Val	Ser	Trp	Gln				
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Val	Lys	Leu	Leu	Pro	Val	Pro	Pro	Thr	Val	Thr	Val	Leu	Lys	Ile	Pro				
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Leu	Gly	Lys	Gln	Asn	Leu	Asp	Asp	Leu	Leu	Asn	Arg	Asn	Asn	Thr	Phe				
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gaa	gcg	gcg	acg	ccg	ttc	cct	cac	cgc	cag	ggc	gtc	ctc	ttc	aac	atc	1248			
Glu	Ala	Ala	Thr	Pro	Phe	Pro	His	Arg	Gln	Gly	Val	Leu	Phe	Asn	Ile				
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aat ccc agg cag gcg tat gcc aac tac agg gac atc gac ctt ggc agg 1392  
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ggt gag aag tac ttc aag ggc aac ttc caa agg ctc gcc att acc aag 1488  
 Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala Ile Thr Lys  
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ggc aag gtg gat cct cag gac tac ttc agg aac gag cag agc atc ccg 1536  
 Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro  
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 Pro Leu Val Glu Lys Tyr  
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&lt;212&gt; PRT

&lt;213&gt; Secale cereale

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Gln Ala Ala Ala Ala Ala Tyr Ala Pro Val Pro Ala Lys Ala Asp Phe  
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Leu Gly Cys Leu Met Lys Glu Ile Pro Ala Arg Leu Leu Tyr Ala Lys  
 35 40 45

Ser Ser Pro Asp Tyr Pro Thr Val Leu Ala Gln Thr Ile Arg Asn Ser  
 50 55 60

Arg Trp Ser Ser Pro Gln Asn Val Lys Pro Ile Tyr Ile Ile Thr Pro  
 65 70 75 80

Thr Asn Ala Ser His Ile Gln Ser Ala Val Val Cys Gly Arg Arg His

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Gly Ile Arg Leu Arg Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu	100		105		110
Ser Tyr Arg Ser Glu Lys Pro Glu Thr Phe Ala Val Val Asp Leu Asn	115		120		125
Lys Met Arg Ala Val Ser Val Asp Gly Tyr Ala Arg Thr Ala Trp Val	130		135		140
Glu Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala Lys Asn	145		150		155
Ser Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Ser Ile Gly Val	165		170		175
Gly Gly Asn Phe Ala Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr	180		185		190
Gly Ile Ala Ala Glu Asn Val Ile Asp Val Lys Val Val Asp Pro Asn	195		200		205
Gly Lys Leu Leu Asp Lys Ser Ser Met Ser Ala Asp His Phe Trp Ala	210		215		220
Val Arg Gly Gly Gly Gly Glu Ser Phe Gly Ile Val Val Ser Trp Gln	225		230		235
Val Lys Leu Leu Pro Val Pro Pro Thr Val Thr Val Leu Lys Ile Pro	245		250		255
Lys Thr Val Gln Glu Gly Ala Ile Asp Leu Val Asn Lys Trp Gln Leu	260		265		270
Val Gly Pro Ala Leu Pro Gly Asp Leu Met Ile Arg Ile Ile Leu Ala	275		280		285
Gly Asn Ser Ala Thr Phe Glu Ala Met Tyr Leu Gly Thr Cys Ser Thr	290		295		300
Leu Thr Pro Leu Met Ser Ser Lys Phe Pro Glu Leu Gly Met Asn Pro	305		310		315
Ser His Cys Asn Glu Met Ser Trp Ile Lys Ser Ile Pro Phe Ile His	325		330		335

Leu Gly Lys Gln Asn Leu Asp Asp Leu Leu Asn Arg Asn Asn Thr Phe  
 340 345 350

Lys Pro Phe Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Phe Pro  
 355 360 365

Lys Pro Val Trp Glu Gln Ile Phe Gly Trp Leu Val Lys Pro Gly Ala  
 370 375 380

Gly Ile Met Ile Met Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro  
 385 390 395 400

Glu Ala Ala Thr Pro Phe Pro His Arg Gln Gly Val Leu Phe Asn Ile  
 405 410 415

Gln Tyr Val Asn Tyr Trp Phe Ala Glu Ser Ala Gly Ala Ala Pro Leu  
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Gln Trp Ser Lys Asp Ile Tyr Lys Phe Met Glu Pro Tyr Val Ser Lys  
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Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg  
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Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val Trp  
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Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala Ile Thr Lys  
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tgc	cac	gcc	gcc	gtc	tcc	tac	gcg	gcg	gcg	ccg	gtg	ccg	gcc	aag	gag	96
Cys	His	Ala	Ala	Val	Ser	Tyr	Ala	Ala	Ala	Pro	Val	Pro	Ala	Lys	Glu	
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gac	ttc	ttc	gga	tgc	ctg	gtg	aag	gag	ata	ccg	gcc	cgc	ctc	ctc	tac	144
Asp	Phe	Phe	Gly	Cys	Leu	Val	Lys	Glu	Ile	Pro	Ala	Arg	Leu	Leu	Tyr	
		35					40					45				

gcc	aag	agc	tcg	cct	gcc	ttc	ccc	acc	gtc	ctg	gcg	cag	acc	atc	agg	192
Ala	Lys	Ser	Ser	Pro	Ala	Phe	Pro	Thr	Val	Leu	Ala	Gln	Thr	Ile	Arg	
	50					55					60					

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Asn	Ser	Arg	Trp	Ser	Ser	Pro	Gln	Ser	Val	Lys	Pro	Leu	Tyr	Ile	Ile	
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Thr	Pro	Thr	Asn	Ala	Ser	His	Ile	Gln	Ser	Ala	Val	Val	Cys	Gly	Arg	
			85					90						95		

cgg	cac	ggc	gtc	cgc	atc	cgc	gtg	cgg	agc	ggc	ggc	cac	gac	tac	gag	336
Arg	His	Gly	Val	Arg	Ile	Arg	Val	Arg	Ser	Gly	Gly	His	Asp	Tyr	Glu	

100						105						110						
ggc	ctg	tcg	tac	cgg	tcc	gag	cgc	ccc	gag	gcg	ttc	gcc	gtc	gtc	gac	384		
Gly	Leu	Ser	Tyr	Arg	Ser	Glu	Arg	Pro	Glu	Ala	Phe	Ala	Val	Val	Asp			
		115					120					125						
ctc	aac	aag	atg	cgg	gcc	gtg	gtg	gtc	gac	ggc	aag	gct	cgc	acg	gcg	432		
Leu	Asn	Lys	Met	Arg	Ala	Val	Val	Val	Asp	Gly	Lys	Ala	Arg	Thr	Ala			
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tgg	gtg	gac	tcc	ggt	gcg	cag	ctc	ggc	gag	ctc	tac	tac	gcc	atc	gcc	480		
Trp	Val	Asp	Ser	Gly	Ala	Gln	Leu	Gly	Glu	Leu	Tyr	Tyr	Ala	Ile	Ala			
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aag	aac	agc	ccc	gtg	ctc	gcg	ttc	ccg	gcc	ggc	gtt	tgc	ccg	acc	att	528		
Lys	Asn	Ser	Pro	Val	Leu	Ala	Phe	Pro	Ala	Gly	Val	Cys	Pro	Thr	Ile			
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Gly	Val	Gly	Gly	Asn	Phe	Ala	Gly	Gly	Gly	Phe	Gly	Met	Leu	Leu	Arg			
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Lys	Tyr	Gly	Ile	Ala	Ala	Glu	Asn	Val	Ile	Asp	Val	Lys	Val	Val	Asp			
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Ala	Asn	Gly	Thr	Leu	Leu	Asp	Lys	Ser	Ser	Met	Ser	Ala	Asp	His	Phe			
	210					215						220						
tgg	gcc	gtc	agg	ggc	ggc	ggc	gga	gag	agc	ttc	ggc	atc	gtc	gtg	tcg	720		
Trp	Ala	Val	Arg	Gly	Gly	Gly	Gly	Glu	Ser	Phe	Gly	Ile	Val	Val	Ser			
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tgg	cag	gtg	aag	ctc	ctc	ccg	gtg	cct	ccc	acc	gtg	acc	gtg	ttc	aag	768		
Trp	Gln	Val	Lys	Leu	Leu	Pro	Val	Pro	Pro	Thr	Val	Thr	Val	Phe	Lys			
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Ile	Pro	Lys	Thr	Val	Gln	Glu	Gly	Ala	Val	Glu	Leu	Ile	Asn	Lys	Trp			
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cag	cta	gtc	gcg	ccg	gcc	ctc	ccc	gac	gac	ctg	atg	atc	cgc	atc	atc	864		
Gln	Leu	Val	Ala	Pro	Ala	Leu	Pro	Asp	Asp	Leu	Met	Ile	Arg	Ile	Ile			
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Ala	Phe	Gly	Gly	Thr	Ala	Lys	Phe	Glu	Ala	Met	Tyr	Leu	Gly	Thr	Cys			
	290					295					300							
aaa	gcc	ctg	aca	ccg	ctg	atg	agc	agc	aga	ttc	ccc	gag	ctc	ggc	atg	960		
Lys	Ala	Leu	Thr	Pro	Leu	Met	Ser	Ser	Arg	Phe	Pro	Glu	Leu	Gly	Met			
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Asn	Ala	Ser	His	Cys	Asn	Glu	Met	Pro	Trp	Ile	Lys	Ser	Val	Pro	Phe			
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Ile	His	Leu	Gly	Lys	Gln	Ala	Thr	Leu	Ser	Asp	Leu	Leu	Asn	Arg	Asn			
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aac	acc	ttc	aaa	ccc	ttc	gcc	gag	tac	aag	tcg	gac	tac	gtc	tac	cag	1104		



Asn	Thr	Phe	Lys	Pro	Phe	Ala	Glu	Tyr	Lys	Ser	Asp	Tyr	Val	Tyr	Gln		
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ccc	gtc	ccc	aag	ccc	gtc	tgg	gcg	cag	atc	ttc	gtc	tgg	ctc	gtc	aaa	1152	
Pro	Val	Pro	Lys	Pro	Val	Trp	Ala	Gln	Ile	Phe	Val	Trp	Leu	Val	Lys		
		370				375					380						
ccc	ggc	gcc	ggg	atc	atg	gtc	atg	gac	ccc	tac	ggc	gcc	gcc	atc	agc	1200	
Pro	Gly	Ala	Gly	Ile	Met	Val	Met	Asp	Pro	Tyr	Gly	Ala	Ala	Ile	Ser		
		385			390					395					400		
gcc	acc	ccc	gaa	gcc	gcc	acg	ccg	ttc	cct	cac	cgc	aag	gac	gtc	ctc	1248	
Ala	Thr	Pro	Glu	Ala	Ala	Thr	Pro	Phe	Pro	His	Arg	Lys	Asp	Val	Leu		
				405					410					415			
ttc	aac	atc	cag	tac	gtc	aac	tac	tgg	ttc	gac	gag	gca	ggc	ggc	gcc	1296	
Phe	Asn	Ile	Gln	Tyr	Val	Asn	Tyr	Trp	Phe	Asp	Glu	Ala	Gly	Gly	Ala		
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Ala	Pro	Leu	Gln	Trp	Ser	Lys	Asp	Met	Tyr	Arg	Phe	Met	Glu	Pro	Tyr		
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Val	Ser	Lys	Asn	Pro	Arg	Gln	Ala	Tyr	Ala	Asn		Arg	Asp	Ile	Asp		
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Leu	Gly	Arg	Asn	Glu	Val	Val	Asn	Asp	Ile	Ser	Thr	Tyr	Ala	Ser	Gly		
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aag	gtc	tgg	ggc	gag	aag	tac	ttc	aag	ggc	aac	ttc	caa	agg	ctc	gcc	1488	
Lys	Val	Trp	Gly	Glu	Lys	Tyr	Phe	Lys	Gly	Asn	Phe	Gln	Arg	Leu	Ala		
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Ile	Thr	Lys	Gly	Lys	Val	Asp	Pro	Gln	Asp	Tyr	Phe	Arg	Asn	Glu	Gln		
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agc	atc	ccg	ccg	ctg	cta	ggg	aag	tag	tagtactctt	gcttgcatgg						1583	
Ser	Ile	Pro	Pro	Leu	Leu	Gly	Lys										
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&lt;211&gt; 520

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Asn	Ser	Arg	Ala	Phe	Ala	Leu	Val	Pro	Leu	Leu	Ile	Cys	Val	Leu	Ser
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Cys His Ala Ala Val Ser Tyr Ala Ala Ala Pro Val Pro Ala Lys Glu  
 20 25 30

Asp Phe Phe Gly Cys Leu Val Lys Glu Ile Pro Ala Arg Leu Leu Tyr  
 35 40 45

Ala Lys Ser Ser Pro Ala Phe Pro Thr Val Leu Ala Gln Thr Ile Arg  
 50 55 60

Asn Ser Arg Trp Ser Ser Pro Gln Ser Val Lys Pro Leu Tyr Ile Ile  
 65 70 75 80

Thr Pro Thr Asn Ala Ser His Ile Gln Ser Ala Val Val Cys Gly Arg  
 85 90 95

Arg His Gly Val Arg Ile Arg Val Arg Ser Gly Gly His Asp Tyr Glu  
 100 105 110

Gly Leu Ser Tyr Arg Ser Glu Arg Pro Glu Ala Phe Ala Val Val Asp  
 115 120 125

Leu Asn Lys Met Arg Ala Val Val Val Asp Gly Lys Ala Arg Thr Ala  
 130 135 140

Trp Val Asp Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala  
 145 150 155 160

Lys Asn Ser Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Thr Ile  
 165 170 175

Gly Val Gly Gly Asn Phe Ala Gly Gly Gly Phe Gly Met Leu Leu Arg  
 180 185 190

Lys Tyr Gly Ile Ala Ala Glu Asn Val Ile Asp Val Lys Val Val Asp  
 195 200 205

Ala Asn Gly Thr Leu Leu Asp Lys Ser Ser Met Ser Ala Asp His Phe  
 210 215 220

Trp Ala Val Arg Gly Gly Gly Gly Glu Ser Phe Gly Ile Val Val Ser  
 225 230 235 240

Trp Gln Val Lys Leu Leu Pro Val Pro Pro Thr Val Thr Val Phe Lys  
 245 250 255

Ile Pro Lys Thr Val Gln Glu Gly Ala Val Glu Leu Ile Asn Lys Trp  
 260 265 270

Gln Leu Val Ala Pro Ala Leu Pro Asp Asp Leu Met Ile Arg Ile Ile  
275 280 285

Ala Phe Gly Gly Thr Ala Lys Phe Glu Ala Met Tyr Leu Gly Thr Cys  
290 295 300

Lys Ala Leu Thr Pro Leu Met Ser Ser Arg Phe Pro Glu Leu Gly Met  
305 310 315 320

Asn Ala Ser His Cys Asn Glu Met Pro Trp Ile Lys Ser Val Pro Phe  
325 330 335

Ile His Leu Gly Lys Gln Ala Thr Leu Ser Asp Leu Leu Asn Arg Asn  
340 345 350

Asn Thr Phe Lys Pro Phe Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln  
355 360 365

Pro Val Pro Lys Pro Val Trp Ala Gln Ile Phe Val Trp Leu Val Lys  
370 375 380

Pro Gly Ala Gly Ile Met Val Met Asp Pro Tyr Gly Ala Ala Ile Ser  
385 390 395 400

Ala Thr Pro Glu Ala Ala Thr Pro Phe Pro His Arg Lys Asp Val Leu  
405 410 415

Phe Asn Ile Gln Tyr Val Asn Tyr Trp Phe Asp Glu Ala Gly Gly Ala  
420 425 430

Ala Pro Leu Gln Trp Ser Lys Asp Met Tyr Arg Phe Met Glu Pro Tyr  
435 440 445

Val Ser Lys Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp  
450 455 460

Leu Gly Arg Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ala Ser Gly  
465 470 475 480

Lys Val Trp Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala  
485 490 495

Ile Thr Lys Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln  
500 505 510

Ser Ile Pro Pro Leu Leu Gly Lys

515

520

&lt;210&gt; 5

&lt;211&gt; 1608

&lt;212&gt; DNA

&lt;213&gt; Hordeum vulgare

&lt;220&gt;

&lt;221&gt; stop\_codon

&lt;222&gt; (1555)..(1557)

&lt;223&gt;

&lt;220&gt;

&lt;221&gt; signal\_sequence\_DNA

&lt;222&gt; (1)..(66)

&lt;223&gt;

&lt;220&gt;

&lt;221&gt; signal\_sequence\_PROT

&lt;222&gt; (1)..(22)

&lt;223&gt;

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(1557)

&lt;223&gt;

&lt;400&gt; 5

agc	tgc	agg	gcc	ttc	gct	ctg	gtg	ctc	ctc	ctc	tgc	gcc	ttg	tcc	tgc	48
Ser	Ser	Arg	Ala	Phe	Ala	Leu	Val	Leu	Leu	Leu	Cys	Ala	Leu	Ser	Cys	
1				5				10					15			

cac	cac	gct	gcc	gtc	tcc	tcc	gcg	cag	gtg	ccg	gcc	aag	gac	gac	ttc	96
His	His	Ala	Ala	Val	Ser	Ser	Ala	Gln	Val	Pro	Ala	Lys	Asp	Asp	Phe	
		20						25					30			

ctg	gga	tgc	ctc	gtg	aag	gag	ata	ccg	gcc	cgc	ctc	ctc	ttc	gcc	aag	144
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Leu	Gly	Cys	Leu	Val	Lys	Glu	Ile	Pro	Ala	Arg	Leu	Leu	Phe	Ala	Lys	
		35					40					45				
agc	tcg	cct	gcc	ttc	ccc	gcc	gtc	ctg	gag	cag	acc	atc	agg	aac	tcg	192
Ser	Ser	Pro	Ala	Phe	Pro	Ala	Val	Leu	Glu	Gln	Thr	Ile	Arg	Asn	Ser	
	50					55					60					
cgg	tgg	tcg	tcg	ccg	cag	aac	gtg	aag	ccg	ctc	tac	atc	atc	acc	ccc	240
Arg	Trp	Ser	Ser	Pro	Gln	Asn	Val	Lys	Pro	Leu	Tyr	Ile	Ile	Thr	Pro	
65					70				75						80	
acc	aac	acc	tcc	cac	atc	cag	tct	gct	gtg	gtg	tgc	ggc	cgc	cgg	cac	288
Thr	Asn	Thr	Ser	His	Ile	Gln	Ser	Ala	Val	Val	Cys	Gly	Arg	Arg	His	
				85					90					95		
ggc	gtc	cgc	ctc	cgc	gtg	cgg	agc	ggc	ggc	cac	gac	tac	gag	ggc	ctg	336
Gly	Val	Arg	Leu	Arg	Val	Arg	Ser	Gly	Gly	His	Asp	Tyr	Glu	Gly	Leu	
			100					105					110			
tcg	tac	cgg	tcc	gag	cgc	ccc	gag	gcg	ttc	gcc	gtc	gta	gac	ctc	aac	384
Ser	Tyr	Arg	Ser	Glu	Arg	Pro	Glu	Ala	Phe	Ala	Val	Val	Asp	Leu	Asn	
		115					120					125				
aag	atg	cgg	acc	gtg	ttg	gtc	aac	gaa	aag	gcc	cgc	acg	gcg	tgg	gtg	432
Lys	Met	Arg	Thr	Val	Leu	Val	Asn	Glu	Lys	Ala	Arg	Thr	Ala	Trp	Val	
	130					135					140					
gac	tcc	ggc	gcg	cag	ctc	ggc	gag	ctc	tac	tac	gcc	atc	gcc	aag	aac	480
Asp	Ser	Gly	Ala	Gln	Leu	Gly	Glu	Leu	Tyr	Tyr	Ala	Ile	Ala	Lys	Asn	
145					150				155						160	
agc	ccc	gtg	ctc	gcg	ttc	cca	gcc	ggc	gtt	tgc	ccg	tcc	att	ggt	gta	528
Ser	Pro	Val	Leu	Ala	Phe	Pro	Ala	Gly	Val	Cys	Pro	Ser	Ile	Gly	Val	
				165					170					175		
ggt	ggc	aac	ttc	gct	ggc	ggc	ggc	ttc	ggc	atg	ctg	ctg	cgc	aag	tac	576
Gly	Gly	Asn	Phe	Ala	Gly	Gly	Gly	Phe	Gly	Met	Leu	Leu	Arg	Lys	Tyr	
			180					185					190			
ggc	atc	gcc	gcc	gag	aac	gtc	atc	gac	gtc	aag	ctg	gtc	gac	gcc	aac	624
Gly	Ile	Ala	Ala	Glu	Asn	Val	Ile	Asp	Val	Lys	Leu	Val	Asp	Ala	Asn	
		195					200					205				
ggc	aag	ctg	ctc	gac	aag	agc	tcc	atg	agc	ccg	gac	cac	ttc	tgg	gcc	672
Gly	Lys	Leu	Leu	Asp	Lys	Ser	Ser	Met	Ser	Pro	Asp	His	Phe	Trp	Ala	
	210					215					220					
gtc	agg	ggc	ggc	ggc	gga	gag	agc	ttc	ggc	atc	gtc	gtc	tcg	tgg	cag	720
Val	Arg	Gly	Gly	Gly	Gly	Glu	Ser	Phe	Gly	Ile	Val	Val	Ser	Trp	Gln	
225					230				235						240	
gtg	aag	ctt	ctc	ccg	gtg	cct	ccc	acc	gtg	act	gtg	ttt	cag	atc	ccc	768
Val	Lys	Leu	Leu	Pro	Val	Pro	Pro	Thr	Val	Thr	Val	Phe	Gln	Ile	Pro	
				245					250					255		
aag	aca	gtg	caa	gaa	ggc	gcc	gta	gac	ctc	atc	aac	aag	tgg	cag	ctg	816
Lys	Thr	Val	Gln	Glu	Gly	Ala	Val	Asp	Leu	Ile	Asn	Lys	Trp	Gln	Leu	
			260				265						270			
gtc	gcg	ccg	gcc	ctt	ccc	ggc	gac	atc	atg	atc	cgc	atc	atc	gcc	atg	864
Val	Ala	Pro	Ala	Leu	Pro	Gly	Asp	Ile	Met	Ile	Arg	Ile	Ile	Ala	Met	
		275					280					285				

ggg gac aaa gcg acg ttc gag gcc atg tac ctg ggc acc tgc aaa acc Gly Asp Lys Ala Thr Phe Glu Ala Met Tyr Leu Gly Thr Cys Lys Thr 290 295 300	912
ctg acg ccg ctg atg agc agc aaa ttc ccg gag ctt ggc atg aac ccc Leu Thr Pro Leu Met Ser Ser Lys Phe Pro Glu Leu Gly Met Asn Pro 305 310 315 320	960
tcg cac tgc aac gag atg ccc tgg atc aag tcc atc ccc ttc atc cac Ser His Cys Asn Glu Met Pro Trp Ile Lys Ser Ile Pro Phe Ile His 325 330 335	1008
ctt ggc aag cag gcc acc ctg gcc gac ctc ctc aac cgg aac aac acc Leu Gly Lys Gln Ala Thr Leu Ala Asp Leu Leu Asn Arg Asn Asn Thr 340 345 350	1056
ttc aaa ccc ttc gcc gaa tac aag tcg gac tac gtc tac cag ccc gtc Phe Lys Pro Phe Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Val 355 360 365	1104
ccc aag ccc gtg tgg gag cag ctc ttc ggc tgg ctc acg aaa ccc ggc Pro Lys Pro Val Trp Glu Gln Leu Phe Gly Trp Leu Thr Lys Pro Gly 370 375 380	1152
gcg ggg atc atg gtc atg gac cca tac ggc gcc acc atc agc gcc acc Ala Gly Ile Met Val Met Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr 385 390 395 400	1200
ccc gaa gcg gcg acg ccg ttc cct cac cgc aag ggc gtc ctc ttc aac Pro Glu Ala Ala Thr Pro Phe Pro His Arg Lys Gly Val Leu Phe Asn 405 410 415	1248
atc cag tac gtc aac tac tgg ttc gcc gag gca gcc ggc gcc gcg ccg Ile Gln Tyr Val Asn Tyr Trp Phe Ala Glu Ala Ala Gly Ala Ala Pro 420 425 430	1296
ctg cag tgg agc aag gac att tac aaa ttc atg gag ccg ttc gtg agc Leu Gln Trp Ser Lys Asp Ile Tyr Lys Phe Met Glu Pro Phe Val Ser 435 440 445	1344
aag aac ccc agg cag gcg tac gcc aac tac agg gac atc gac ctc ggc Lys Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly 450 455 460	1392
agg aac gag gtg gtg aac gac atc tca acc tac agc agc ggc aag gtg Arg Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val 465 470 475 480	1440
tgg ggc gag aag tac ttc aag ggc aac ttc caa agg ctc gcc atc acc Trp Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala Ile Thr 485 490 495	1488
aag ggc aag gtg gat ccc cag gac tac ttc agg aac gag cag agc atc Lys Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln Ser Ile 500 505 510	1536
ccg ccg ctg ctg ggc aag tag tgaccgagag tcttgcatgg agatttgtag Pro Pro Leu Leu Gly Lys 515	1587
tgcggtgcttg gcgtttctga t	1608

&lt;210&gt; 6

&lt;211&gt; 518

&lt;212&gt; PRT

&lt;213&gt; Hordeum vulgare

&lt;400&gt; 6

Ser Ser Arg Ala Phe Ala Leu Val Leu Leu Leu Cys Ala Leu Ser Cys  
1 5 10 15

His His Ala Ala Val Ser Ser Ala Gln Val Pro Ala Lys Asp Asp Phe  
20 25 30

Leu Gly Cys Leu Val Lys Glu Ile Pro Ala Arg Leu Leu Phe Ala Lys  
35 40 45

Ser Ser Pro Ala Phe Pro Ala Val Leu Glu Gln Thr Ile Arg Asn Ser  
50 55 60

Arg Trp Ser Ser Pro Gln Asn Val Lys Pro Leu Tyr Ile Ile Thr Pro  
65 70 75 80

Thr Asn Thr Ser His Ile Gln Ser Ala Val Val Cys Gly Arg Arg His  
85 90 95

Gly Val Arg Leu Arg Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu  
100 105 110

Ser Tyr Arg Ser Glu Arg Pro Glu Ala Phe Ala Val Val Asp Leu Asn  
115 120 125

Lys Met Arg Thr Val Leu Val Asn Glu Lys Ala Arg Thr Ala Trp Val  
130 135 140

Asp Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala Lys Asn  
145 150 155 160

Ser Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Ser Ile Gly Val  
165 170 175

Gly Gly Asn Phe Ala Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr  
180 185 190

Gly Ile Ala Ala Glu Asn Val Ile Asp Val Lys Leu Val Asp Ala Asn  
195 200 205

Gly Lys Leu Leu Asp Lys Ser Ser Met Ser Pro Asp His Phe Trp Ala  
 210 215 220  
 Val Arg Gly Gly Gly Gly Glu Ser Phe Gly Ile Val Val Ser Trp Gln  
 225 230 235 240  
 Val Lys Leu Leu Pro Val Pro Pro Thr Val Thr Val Phe Gln Ile Pro  
 245 250 255  
 Lys Thr Val Gln Glu Gly Ala Val Asp Leu Ile Asn Lys Trp Gln Leu  
 260 265 270  
 Val Ala Pro Ala Leu Pro Gly Asp Ile Met Ile Arg Ile Ile Ala Met  
 275 280 285  
 Gly Asp Lys Ala Thr Phe Glu Ala Met Tyr Leu Gly Thr Cys Lys Thr  
 290 295 300  
 Leu Thr Pro Leu Met Ser Ser Lys Phe Pro Glu Leu Gly Met Asn Pro  
 305 310 315 320  
 Ser His Cys Asn Glu Met Pro Trp Ile Lys Ser Ile Pro Phe Ile His  
 325 330 335  
 Leu Gly Lys Gln Ala Thr Leu Ala Asp Leu Leu Asn Arg Asn Asn Thr  
 340 345 350  
 Phe Lys Pro Phe Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Val  
 355 360 365  
 Pro Lys Pro Val Trp Glu Gln Leu Phe Gly Trp Leu Thr Lys Pro Gly  
 370 375 380  
 Ala Gly Ile Met Val Met Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr  
 385 390 395 400  
 Pro Glu Ala Ala Thr Pro Phe Pro His Arg Lys Gly Val Leu Phe Asn  
 405 410 415  
 Ile Gln Tyr Val Asn Tyr Trp Phe Ala Glu Ala Ala Gly Ala Ala Pro  
 420 425 430  
 Leu Gln Trp Ser Lys Asp Ile Tyr Lys Phe Met Glu Pro Phe Val Ser  
 435 440 445  
 Lys Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly  
 450 455 460



Arg Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val  
465 470 475 480

Trp Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala Ile Thr  
485 490 495

Lys Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln Ser Ile  
500 505 510

Pro Pro Leu Leu Gly Lys  
515

<210> 7

<211> 1603

<212> DNA

<213> Triticum aestivum

<220>

<221> stop\_codon

<222> (1555)..(1557)

<223>

<220>

<221> signal\_sequence\_DNA

<222> (1)..(63)

<223>

<220>

<221> signal\_sequence\_PROT

<222> (1)..(21)

<223>

<220>

<221> CDS

&lt;222&gt; (1)..(1557)

&lt;223&gt;

&lt;400&gt; 7

aac tat agg gcc ttc acg ctg gtg ctc ctc ttc tgc gcc ttg tcc tgt	48
Asn Tyr Arg Ala Phe Thr Leu Val Leu Leu Phe Cys Ala Leu Ser Cys	
1 5 10 15	
caa gcc gcc gcc acc tac gcg ccg gtg cct gcc aag gag gac ttc ctc	96
Gln Ala Ala Ala Thr Tyr Ala Pro Val Pro Ala Lys Glu Asp Phe Leu	
20 25 30	
gga tgc ctc atg aag gag ata ccg gca cgc ctc ctc tac gcc aag agc	144
Gly Cys Leu Met Lys Glu Ile Pro Ala Arg Leu Leu Tyr Ala Lys Ser	
35 40 45	
tcg cct gac ttc ccc acc gtc ctg gcg cag acc atc agg aac tcg cgg	192
Ser Pro Asp Phe Pro Thr Val Leu Ala Gln Thr Ile Arg Asn Ser Arg	
50 55 60	
tgg ttg tcg ccg cag aac gtg aag ccg ctc tac atc atc acc ccc acc	240
Trp Leu Ser Pro Gln Asn Val Lys Pro Leu Tyr Ile Ile Thr Pro Thr	
65 70 75 80	
aac gcc tcg cac atc cag tcc gcg gtg gtg tgc gga cgc cgg cac agc	288
Asn Ala Ser His Ile Gln Ser Ala Val Val Cys Gly Arg Arg His Ser	
85 90 95	
gtc cgc ctc cgc gtc cgg agc ggc ggc cac gac tac gag ggc ctg tcg	336
Val Arg Leu Arg Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu Ser	
100 105 110	
tac cgg tcc gag aaa ccc gag acg ttc gcc gtc gtc gac ctc aac aag	384
Tyr Arg Ser Glu Lys Pro Glu Thr Phe Ala Val Val Asp Leu Asn Lys	
115 120 125	
atg cgg gca gtg ttg atc gac ggc tac gcc cgc acg gcg tgg gtc gaa	432
Met Arg Ala Val Leu Ile Asp Gly Tyr Ala Arg Thr Ala Trp Val Glu	
130 135 140	
tcc ggc gcg cag ctc ggc gag ctc tac tac gcc atc gcg aaa aac agc	480
Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala Lys Asn Ser	
145 150 155 160	
ccc gtg ctc gcg ttc ccg gcc ggc gtc tgc ccg acc atc ggc gtc ggc	528
Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Thr Ile Gly Val Gly	
165 170 175	
ggc aac ttc gca ggc ggc ggc ttt ggc atg ctg ctg cgg aag tac ggc	576
Gly Asn Phe Ala Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr Gly	
180 185 190	
atc gcc gcc gag aac gtc atc gac gtc aag gtg gtc gac ccc aac ggc	624
Ile Ala Ala Glu Asn Val Ile Asp Val Lys Val Val Asp Pro Asn Gly	
195 200 205	
aag ctt ctc gac aag agc tcc atg agc ccg gac cac ttc tgg gcc gtc	672
Lys Leu Leu Asp Lys Ser Ser Met Ser Pro Asp His Phe Trp Ala Val	
210 215 220	

agg ggc ggc ggc gga gag agc ttt ggc atc gtc gtg tcg tgg caa gtg Arg Gly Gly Gly Gly Glu Ser Phe Gly Ile Val Val Ser Trp Gln Val 225 230 235 240	720
aag ctc ctg ccg gtg cct ccc acc gtg acc gtg ttc aag atc ccc aag Lys Leu Leu Pro Val Pro Pro Thr Val Thr Val Phe Lys Ile Pro Lys 245 250 255	768
aca gtg caa gaa ggc gcc gta gac ctc gtc aac aag tgg caa ctg gtc Thr Val Gln Glu Gly Ala Val Asp Leu Val Asn Lys Trp Gln Leu Val 260 265 270	816
ggg ccg gcc ctt ccc ggc gac ctc atg atc cgc gtc atc gct gcg ggg Gly Pro Ala Leu Pro Gly Asp Leu Met Ile Arg Val Ile Ala Ala Gly 275 280 285	864
aac acc gcg aca ttc gag ggc atg tac ctg ggc acc tgc caa acc ctg Asn Thr Ala Thr Phe Glu Gly Met Tyr Leu Gly Thr Cys Gln Thr Leu 290 295 300	912
acg ccg ttg atg agc agc caa ttc ccc gag ctt ggc atg aac ccc tat Thr Pro Leu Met Ser Ser Gln Phe Pro Glu Leu Gly Met Asn Pro Tyr 305 310 315 320	960
cac tgc aac gag atg ccc tgg atc aag tcc atc ccc ttc atc cac ctc His Cys Asn Glu Met Pro Trp Ile Lys Ser Ile Pro Phe Ile His Leu 325 330 335	1008
ggc aaa gag gcc agc ctg gtc gac ctc ctc aac cgg aac aac acc ttc Gly Lys Glu Ala Ser Leu Val Asp Leu Leu Asn Arg Asn Asn Thr Phe 340 345 350	1056
aag ccc ttc gcc gaa tac aag tcg gac tac gtg tac cag ccc ttc ccc Lys Pro Phe Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Phe Pro 355 360 365	1104
aag ccc gtg tgg gag cag atc ttc ggc tgg ctc acg aag ccc ggt ggg Lys Pro Val Trp Glu Gln Ile Phe Gly Trp Leu Thr Lys Pro Gly Gly 370 375 380	1152
ggg atg atg atc atg gac cca tac ggc gcc acc atc agc gcc acc ccc Gly Met Met Ile Met Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro 385 390 395 400	1200
gaa gcg gcg acg ccg ttc cct cac cgc cag ggc gtt ctc ttc aac atc Glu Ala Ala Thr Pro Phe Pro His Arg Gln Gly Val Leu Phe Asn Ile 405 410 415	1248
cag tac gtc aac tac tgg ttc gcc gag gca gcc gcc gcc gcg ccg ctg Gln Tyr Val Asn Tyr Trp Phe Ala Glu Ala Ala Ala Ala Ala Pro Leu 420 425 430	1296
cag tgg agc aag gac atg tac aat ttc atg gag ccg tac gtg agc aag Gln Trp Ser Lys Asp Met Tyr Asn Phe Met Glu Pro Tyr Val Ser Lys 435 440 445	1344
aac ccc agg cag gcg tac gcc aac tac agg gac att gac ctc ggc agg Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg 450 455 460	1392
aac gag gtg gtg aac gac atc tca acc tat agc agc ggc aag gtt tgg Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val Trp 465 470 475 480	1440

ggc gag aag tac ttc aag ggc aac ttc caa agg ctc gct att acc aag 1488  
 Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala Ile Thr Lys  
                   485                                  490                                  495

ggc aag gtg gat cct cag gac tac ttc agg aac gag cag agc atc ccg 1536  
 Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro  
                   500                                  505                                  510

ccg ctg ctc gag aag tac tga tcgaggacct tgcattggaga ttttagtgcgt 1587  
 Pro Leu Leu Glu Lys Tyr  
                   515

ggttgccgtt tcacat 1603

<210> 8

<211> 518

<212> PRT

<213> Triticum aestivum

<400> 8

Asn Tyr Arg Ala Phe Thr Leu Val Leu Leu Phe Cys Ala Leu Ser Cys  
 1                  5                                  10                                  15

Gln Ala Ala Ala Thr Tyr Ala Pro Val Pro Ala Lys Glu Asp Phe Leu  
                   20                                  25                                  30

Gly Cys Leu Met Lys Glu Ile Pro Ala Arg Leu Leu Tyr Ala Lys Ser  
                   35                                  40                                  45

Ser Pro Asp Phe Pro Thr Val Leu Ala Gln Thr Ile Arg Asn Ser Arg  
                   50                                  55                                  60

Trp Leu Ser Pro Gln Asn Val Lys Pro Leu Tyr Ile Ile Thr Pro Thr  
 65                                  70                                  75                                  80

Asn Ala Ser His Ile Gln Ser Ala Val Val Cys Gly Arg Arg His Ser  
                   85                                  90                                  95

Val Arg Leu Arg Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu Ser  
                   100                                  105                                  110

Tyr Arg Ser Glu Lys Pro Glu Thr Phe Ala Val Val Asp Leu Asn Lys  
                   115                                  120                                  125

Met Arg Ala Val Leu Ile Asp Gly Tyr Ala Arg Thr Ala Trp Val Glu  
                   130                                  135                                  140

Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala Lys Asn Ser  
 145 150 155 160

Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Thr Ile Gly Val Gly  
 165 170 175

Gly Asn Phe Ala Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr Gly  
 180 185 190

Ile Ala Ala Glu Asn Val Ile Asp Val Lys Val Val Asp Pro Asn Gly  
 195 200 205

Lys Leu Leu Asp Lys Ser Ser Met Ser Pro Asp His Phe Trp Ala Val  
 210 215 220

Arg Gly Gly Gly Gly Glu Ser Phe Gly Ile Val Val Ser Trp Gln Val  
 225 230 235 240

Lys Leu Leu Pro Val Pro Pro Thr Val Thr Val Phe Lys Ile Pro Lys  
 245 250 255

Thr Val Gln Glu Gly Ala Val Asp Leu Val Asn Lys Trp Gln Leu Val  
 260 265 270

Gly Pro Ala Leu Pro Gly Asp Leu Met Ile Arg Val Ile Ala Ala Gly  
 275 280 285

Asn Thr Ala Thr Phe Glu Gly Met Tyr Leu Gly Thr Cys Gln Thr Leu  
 290 295 300

Thr Pro Leu Met Ser Ser Gln Phe Pro Glu Leu Gly Met Asn Pro Tyr  
 305 310 315 320

His Cys Asn Glu Met Pro Trp Ile Lys Ser Ile Pro Phe Ile His Leu  
 325 330 335

Gly Lys Glu Ala Ser Leu Val Asp Leu Leu Asn Arg Asn Asn Thr Phe  
 340 345 350

Lys Pro Phe Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Phe Pro  
 355 360 365

Lys Pro Val Trp Glu Gln Ile Phe Gly Trp Leu Thr Lys Pro Gly Gly  
 370 375 380

Gly Met Met Ile Met Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro  
 385 390 395 400

Glu Ala Ala Thr Pro Phe Pro His Arg Gln Gly Val Leu Phe Asn Ile  
405 410 415

Gln Tyr Val Asn Tyr Trp Phe Ala Glu Ala Ala Ala Ala Pro Leu  
420 425 430

Gln Trp Ser Lys Asp Met Tyr Asn Phe Met Glu Pro Tyr Val Ser Lys  
435 440 445

Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg  
450 455 460

Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val Trp  
465 470 475 480

Gly Glu Lys Tyr Phe Lys Gly Asn Phe Gln Arg Leu Ala Ile Thr Lys  
485 490 495

Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro  
500 505 510

Pro Leu Leu Glu Lys Tyr  
515

<210> 9

<211> 1603

<212> DNA

<213> Triticum aestivum

<220>

<221> stop\_codon

<222> (1555)..(1557)

<223>

<220>

<221> CDS

<222> (1)..(1557)

<223>

$\langle 220 \rangle$

<221> signal\_sequence\_DNA

<222> (1) . . (63)

<223>

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<221> signal_sequence_PROT
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<222> (1) . . (21)

<223>

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Asn	Cys	Arg	Ala	Phe	Ala	Gln	Val	Leu	Leu	Phe	Phe	Ala	Leu	Ser	Cys			
1				5					10					15				
caa	gcc	gcc	gcc	acc	tac	gcg	ccg	gtg	cct	gcc	aag	gag	gac	ttc	ctc			96
Gln	Ala	Ala	Ala	Thr	Tyr	Ala	Pro	Val	Pro	Ala	Lys	Glu	Asp	Phe	Leu			
			20					25					30					
gga	tgc	ctc	atg	aag	gag	ata	ccg	gcc	cgc	ctc	ctc	tac	gcc	aag	agc			144
Gly	Cys	Leu	Met	Lys	Glu	Ile	Pro	Ala	Arg	Leu	Leu	Tyr	Ala	Lys	Ser			
		35					40					45						
tcg	cct	gac	tac	ccc	acc	gtg	ctg	gcg	cag	acc	atc	agg	aac	tcg	cgg			192
Ser	Pro	Asp	Tyr	Pro	Thr	Val	Leu	Ala	Gln	Thr	Ile	Arg	Asn	Ser	Arg			
	50					55					60							
tgg	tcg	acg	cag	cag	aac	gtg	aag	ccg	ctg	tac	atc	atc	acc	ccc	acc			240
Trp	Ser	Thr	Gln	Gln	Asn	Val	Lys	Pro	Leu	Tyr	Ile	Ile	Thr	Pro	Thr			
65					70					75					80			
aac	gcc	tcc	cac	atc	caa	tcc	gcg	gtg	gtg	tgc	ggc	cgc	cgg	cac	ggc			288
Asn	Ala	Ser	His	Ile	Gln	Ser	Ala	Val	Val	Cys	Gly	Arg	Arg	His	Gly			
				85					90					95				
gtc	cgc	ctc	cgc	gtg	cgg	agc	ggc	ggc	cac	gac	tac	gag	ggc	ctg	tcg			336
Val	Arg	Leu	Arg	Val	Arg	Ser	Gly	Gly	His	Asp	Tyr	Glu	Gly	Leu	Ser			
			100				105						110					
tac	cgg	tcc	gag	aaa	ccc	gag	acg	ttc	gcc	gtc	gtc	gac	ctc	aac	aag			384
Tyr	Arg	Ser	Glu	Lys	Pro	Glu	Thr	Phe	Ala	Val	Val	Asp	Leu	Asn	Lys			
		115					120					125						
atg	cgg	gca	gtg	gtt	gtc	gac	ggc	tac	gcc	cgc	acg	gcg	tgg	gtc	gaa			432
Met	Arg	Ala	Val	Val	Val	Asp	Gly	Tyr	Ala	Arg	Thr	Ala	Trp	Val	Glu			
	130					135					140							
tcc	ggc	gcg	cag	ctc	ggc	gag	ctc	tac	tac	gcc	atc	gcg	aag	aac	agc			480
Ser	Gly	Ala	Gln	Leu	Gly	Glu	Leu	Tyr	Tyr	Ala	Ile	Ala	Lys	Asn	Ser			
145					150					155					160			

ccc gtg ctc gcg ttc ccg gcc ggc gtc tgc ccg tcc atc ggc gtc ggc Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Ser Ile Gly Val Gly 165 170 175	528
ggc aac ttc gca ggc ggc ggc ttc ggc atg ctg ctg cgc aag tac ggc Gly Asn Phe Ala Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr Gly 180 185 190	576
atc gcc gcc gag aac gtc atc gac gtc aag gtg gtc gac ccc gac ggc Ile Ala Ala Glu Asn Val Ile Asp Val Lys Val Val Asp Pro Asp Gly 195 200 205	624
aag ctg ctc gac aag agc tcc atg agc gcg gac cac ttc tgg gcc gtc Lys Leu Leu Asp Lys Ser Ser Met Ser Ala Asp His Phe Trp Ala Val 210 215 220	672
agg ggc ggc ggc gga gag agc ttc ggc atc gtc gtc tcg tgg cag gtg Arg Gly Gly Gly Gly Glu Ser Phe Gly Ile Val Val Ser Trp Gln Val 225 230 235 240	720
aag ctc atg cca gtg cct ccc acc gtc acc gtg ttt aag atc ccc aag Lys Leu Met Pro Val Pro Pro Thr Val Thr Val Phe Lys Ile Pro Lys 245 250 255	768
acg gtg caa gaa ggc gcc gta gac ctc gtc aac aag tgg cag ctg gtc Thr Val Gln Glu Gly Ala Val Asp Leu Val Asn Lys Trp Gln Leu Val 260 265 270	816
ggg ccg gca ctt ccc ggc gac ctc atg atc cgc gtc atc gct gcc ggg Gly Pro Ala Leu Pro Gly Asp Leu Met Ile Arg Val Ile Ala Ala Gly 275 280 285	864
aac acg gcg acg ttc gag gcc ttg tac ctg ggc acc tgc aaa acc ctg Asn Thr Ala Thr Phe Glu Ala Leu Tyr Leu Gly Thr Cys Lys Thr Leu 290 295 300	912
acg ccg ctg atg agc agc caa ttc ccc gag ctt ggc atg aac ccc tat Thr Pro Leu Met Ser Ser Gln Phe Pro Glu Leu Gly Met Asn Pro Tyr 305 310 315 320	960
cac tgc aac gag atg ccc tgg atc aag tcc gtc ccc ttc atc cac ctc His Cys Asn Glu Met Pro Trp Ile Lys Ser Val Pro Phe Ile His Leu 325 330 335	1008
ggc aaa cag gct ggc ctg gac gac ctc ctc aac cgg aac aac acc ttc Gly Lys Gln Ala Gly Leu Asp Asp Leu Leu Asn Arg Asn Asn Thr Phe 340 345 350	1056
aag ccc ttc gcc gaa tac aag tcg gac tac gtg tac cag ccc ttc ccc Lys Pro Phe Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Phe Pro 355 360 365	1104
aag ccc gtg tgg gag cag atc ttc ggc tgg ctc gcg aag ccc ggc gcg Lys Pro Val Trp Glu Gln Ile Phe Gly Trp Leu Ala Lys Pro Gly Ala 370 375 380	1152
ggg atc atg atc atg gac ccc tac ggc gcc acc atc agc gcc acc ccc Gly Ile Met Ile Met Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro 385 390 395 400	1200
gaa gcg gcg acg ccg ttc cct cac cgc cag ggc gtc ctc ttc aac atc Glu Ala Ala Thr Pro Phe Pro His Arg Gln Gly Val Leu Phe Asn Ile 405 410 415	1248



cag tat gtc aac tac tgg ttc gcc gag cca gcc ggc gcc gcg ccg ctg 1296  
 Gln Tyr Val Asn Tyr Trp Phe Ala Glu Pro Ala Gly Ala Ala Pro Leu  
 420 425 430

cag tgg agc aag gac att tac aat ttc atg gag ccg tac gtg agc aag 1344  
 Gln Trp Ser Lys Asp Ile Tyr Asn Phe Met Glu Pro Tyr Val Ser Lys  
 435 440 445

aac ccc agg cag gcg tac gcc aac tac agg gac atc gac ctc ggc agg 1392  
 Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg  
 450 455 460

aat gag gtg gtg aac gac atc tca acc tac agc agc ggc aag gtg tgg 1440  
 Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val Trp  
 465 470 475 480

ggc gag aag tac ttc aag agc aac ttc caa agg ctc gcc att acc aag 1488  
 Gly Glu Lys Tyr Phe Lys Ser Asn Phe Gln Arg Leu Ala Ile Thr Lys  
 485 490 495

ggc aag gta gat cct cag gac tac ttc agg aat gag caa agc atc ccg 1536  
 Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro  
 500 505 510

ccg ctg atc gag aag tac tga tcgaggacct tgcattggaga tttagtgcgt 1587  
 Pro Leu Ile Glu Lys Tyr  
 515

gggttggcgtt tcacat 1603

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 <212> PRT  
 <213> Triticum aestivum

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 1 5 10 15  
 Gln Ala Ala Ala Thr Tyr Ala Pro Val Pro Ala Lys Glu Asp Phe Leu  
 20 25 30  
 Gly Cys Leu Met Lys Glu Ile Pro Ala Arg Leu Leu Tyr Ala Lys Ser  
 35 40 45  
 Ser Pro Asp Tyr Pro Thr Val Leu Ala Gln Thr Ile Arg Asn Ser Arg  
 50 55 60  
 Trp Ser Thr Gln Gln Asn Val Lys Pro Leu Tyr Ile Ile Thr Pro Thr  
 65 70 75 80

Asn Ala Ser His Ile Gln Ser Ala Val Val Cys Gly Arg Arg His Gly  
                     85                    90                    95

Val Arg Leu Arg Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu Ser  
                     100                    105                    110

Tyr Arg Ser Glu Lys Pro Glu Thr Phe Ala Val Val Asp Leu Asn Lys  
                     115                    120                    125

Met Arg Ala Val Val Val Asp Gly Tyr Ala Arg Thr Ala Trp Val Glu  
                     130                    135                    140

Ser Gly Ala Gln Leu Gly Glu Leu Tyr Tyr Ala Ile Ala Lys Asn Ser  
                     145                    150                    155                    160

Pro Val Leu Ala Phe Pro Ala Gly Val Cys Pro Ser Ile Gly Val Gly  
                     165                    170                    175

Gly Asn Phe Ala Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr Gly  
                     180                    185                    190

Ile Ala Ala Glu Asn Val Ile Asp Val Lys Val Val Asp Pro Asp Gly  
                     195                    200                    205

Lys Leu Leu Asp Lys Ser Ser Met Ser Ala Asp His Phe Trp Ala Val  
                     210                    215                    220

Arg Gly Gly Gly Gly Glu Ser Phe Gly Ile Val Val Ser Trp Gln Val  
                     225                    230                    235                    240

Lys Leu Met Pro Val Pro Pro Thr Val Thr Val Phe Lys Ile Pro Lys  
                     245                    250                    255

Thr Val Gln Glu Gly Ala Val Asp Leu Val Asn Lys Trp Gln Leu Val  
                     260                    265                    270

Gly Pro Ala Leu Pro Gly Asp Leu Met Ile Arg Val Ile Ala Ala Gly  
                     275                    280                    285

Asn Thr Ala Thr Phe Glu Ala Leu Tyr Leu Gly Thr Cys Lys Thr Leu  
                     290                    295                    300

Thr Pro Leu Met Ser Ser Gln Phe Pro Glu Leu Gly Met Asn Pro Tyr  
                     305                    310                    315                    320

His Cys Asn Glu Met Pro Trp Ile Lys Ser Val Pro Phe Ile His Leu  
                     325                    330                    335

Gly Lys Gln Ala Gly Leu Asp Asp Leu Leu Asn Arg Asn Asn Thr Phe  
340 345 350

Lys Pro Phe Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Phe Pro  
355 360 365

Lys Pro Val Trp Glu Gln Ile Phe Gly Trp Leu Ala Lys Pro Gly Ala  
370 375 380

Gly Ile Met Ile Met Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro  
385 390 395 400

Glu Ala Ala Thr Pro Phe Pro His Arg Gln Gly Val Leu Phe Asn Ile  
405 410 415

Gln Tyr Val Asn Tyr Trp Phe Ala Glu Pro Ala Gly Ala Ala Pro Leu  
420 425 430

Gln Trp Ser Lys Asp Ile Tyr Asn Phe Met Glu Pro Tyr Val Ser Lys  
435 440 445

Asn Pro Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg  
450 455 460

Asn Glu Val Val Asn Asp Ile Ser Thr Tyr Ser Ser Gly Lys Val Trp  
465 470 475 480

Gly Glu Lys Tyr Phe Lys Ser Asn Phe Gln Arg Leu Ala Ile Thr Lys  
485 495

Gly Lys Val Asp Pro Gln Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro  
500 505 510

Pro Leu Ile Glu Lys Tyr  
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<210> 11

<211> 1503

<212> DNA

<213> Phleum pratense

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&lt;222&gt; (1)..(1503)

&lt;223&gt;

&lt;400&gt; 11

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Tyr Phe Pro Pro Pro Ala Ala Lys Glu Asp Phe Leu Gly Cys Leu Val	
1 5 10 15	
aaa gaa atc ccg ccg cgt ctg ttg tac gcg aaa tcg tcg ccg gcg tat	96
Lys Glu Ile Pro Pro Arg Leu Leu Tyr Ala Lys Ser Ser Pro Ala Tyr	
20 25 30	
ccc tca gtc ctg ggg cag acc atc cgg aac tcg agg tgg tcg tcg ccg	144
Pro Ser Val Leu Gly Gln Thr Ile Arg Asn Ser Arg Trp Ser Ser Pro	
35 40 45	
gac aac gtg aag ccg ctc tac atc atc acc ccc acc aac gtc tcc cac	192
Asp Asn Val Lys Pro Leu Tyr Ile Ile Thr Pro Thr Asn Val Ser His	
50 55 60	
atc cag tcc gcc gtg gtg tgc ggc cgc cgc cac agc gtc cgc atc cgc	240
Ile Gln Ser Ala Val Val Cys Gly Arg Arg His Ser Val Arg Ile Arg	
65 70 75 80	
gtg cgc agc ggc ggg cac gac tac gag ggc ctc tcg tac cgg tct ttg	288
Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu Ser Tyr Arg Ser Leu	
85 90 95	
cag ccc gag acg ttc gcc gtc gtc gac ctc aac aag atg cgg gcg gtg	336
Gln Pro Glu Thr Phe Ala Val Val Asp Leu Asn Lys Met Arg Ala Val	
100 105 110	
tgg gtg gac ggc aag gcc cgc acg gcg tgg gtg gac tcc ggc gcg cag	384
Trp Val Asp Gly Lys Ala Arg Thr Ala Trp Val Asp Ser Gly Ala Gln	
115 120 125	
ctc ggc gag ctc tac tac gcc atc tat aag gcg agc ccc acg ctg gcg	432
Leu Gly Glu Leu Tyr Tyr Ala Ile Tyr Lys Ala Ser Pro Thr Leu Ala	
130 135 140	
ttc ccg gcc ggc gtg tgc ccg acg atc gga gtg ggc ggc aac ttc gcg	480
Phe Pro Ala Gly Val Cys Pro Thr Ile Gly Val Gly Gly Asn Phe Ala	
145 150 155 160	
ggc ggc ggc ttc ggc atg ctg ctg cgc aag tac ggc atc gcc gcg gag	528
Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr Gly Ile Ala Ala Glu	
165 170 175	
aac gtc atc gac gtg aag ctc gtc gac gcc aac ggc aag ctg cac gac	576
Asn Val Ile Asp Val Lys Leu Val Asp Ala Asn Gly Lys Leu His Asp	
180 185 190	
aag aag tcc atg ggc gac gac cat ttc tgg gcc gtc agg ggc ggc ggg	624
Lys Lys Ser Met Gly Asp Asp His Phe Trp Ala Val Arg Gly Gly Gly	
195 200 205	
ggc gag agc ttc ggc atc gtg gtc gcg tgg cag gtg aag ctc ctg ccg	672
Gly Glu Ser Phe Gly Ile Val Val Ala Trp Gln Val Lys Leu Leu Pro	

210	215	220	
gtg ccg ccc acc gtg aca ata ttc aag atc tcc aag aca gtg agc gag			720
Val Pro Pro Thr Val Thr Ile Phe Lys Ile Ser Lys Thr Val Ser Glu			
225	230	235	240
ggc gcc gtg gac atc atc aac aag tgg caa gtg gtc gcg ccg cag ctt			768
Gly Ala Val Asp Ile Ile Asn Lys Trp Gln Val Val Ala Pro Gln Leu			
	245	250	255
ccc gcc gac ctc atg atc cgc atc atc gcg cag ggg ccc aag gcc acg			816
Pro Ala Asp Leu Met Ile Arg Ile Ile Ala Gln Gly Pro Lys Ala Thr			
	260	265	270
ttc gag gcc atg tac ctc ggc acc tgc aaa acc ctg acg ccg ttg atg			864
Phe Glu Ala Met Tyr Leu Gly Thr Cys Lys Thr Leu Thr Pro Leu Met			
	275	280	285
agc agc aag ttc ccg gag ctc ggc atg aac ccc tcc cac tgc aac gag			912
Ser Ser Lys Phe Pro Glu Leu Gly Met Asn Pro Ser His Cys Asn Glu			
	290	295	300
atg tca tgg atc cag tcc atc ccc ttc gtc cac ctc ggc cac agg gac			960
Met Ser Trp Ile Gln Ser Ile Pro Phe Val His Leu Gly His Arg Asp			
	305	310	315
gcc ctc gag gac gac ctc ctc aac cgg aac aac tcc ttc aag ccc ttc			1008
Ala Leu Glu Asp Asp Leu Leu Asn Arg Asn Asn Ser Phe Lys Pro Phe			
	325	330	335
gcc gaa tac aag tcc gag tac gtc tac cag ccc ttc ccc aag acc gtc			1056
Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Phe Pro Lys Thr Val			
	340	345	350
tgg gag cag atc ctc aac acc tgg ctc gtc aag ccc ggc gcc ggg atc			1104
Trp Glu Gln Ile Leu Asn Thr Trp Leu Val Lys Pro Gly Ala Gly Ile			
	355	360	365
atg atc ttc gac ccc tac ggc gcc acc atc agc gcc acc ccg gag tcc			1152
Met Ile Phe Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro Glu Ser			
	370	375	380
gcc acg ccc ttc cct cac cgc aag ggc gtc ctc ttc aac atc cag tac			1200
Ala Thr Pro Phe Pro His Arg Lys Gly Val Leu Phe Asn Ile Gln Tyr			
	385	390	395
gtc aac tac tgg ttc gcc ccg gga gcc gcc gcc gcg ccc ctc tcg tgg			1248
Val Asn Tyr Trp Phe Ala Pro Gly Ala Ala Ala Pro Leu Ser Trp			
	405	410	415
agc aag gac atc tac aac tac atg gag ccc tac gtg agc aag aac ccc			1296
Ser Lys Asp Ile Tyr Asn Tyr Met Glu Pro Tyr Val Ser Lys Asn Pro			
	420	425	430
agg cag gcg tac gca aac tac agg gac atc gac ctc ggc agg aac gag			1344
Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg Asn Glu			
	435	440	445
gtg gtc aac gac gtc tcc acc tac gcc agc ggc aag gtc tgg ggc cag			1392
Val Val Asn Asp Val Ser Thr Tyr Ala Ser Gly Lys Val Trp Gly Gln			
	450	455	460
aaa tac ttc aag ggc aac ttc gag agg ctc gcc att acc aag ggc aag			1440

Lys Tyr Phe Lys Gly Asn Phe Glu Arg Leu Ala Ile Thr Lys Gly Lys  
 465 470 475 480  
 gtc gat cct acc gac tac ttc agg aac gag cag agc atc ccg ccg ctc 1488  
 Val Asp Pro Thr Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro Pro Leu  
 485 490 495  
 atc aaa aag tac tga 1503  
 Ile Lys Lys Tyr  
 500

<210> 12

<211> 500

<212> PRT

<213> Phleum pratense

<400> 12

Tyr Phe Pro Pro Pro Ala Ala Lys Glu Asp Phe Leu Gly Cys Leu Val  
 1 5 10 15  
 Lys Glu Ile Pro Pro Arg Leu Leu Tyr Ala Lys Ser Ser Pro Ala Tyr  
 20 25 30  
 Pro Ser Val Leu Gly Gln Thr Ile Arg Asn Ser Arg Trp Ser Ser Pro  
 35 40 45  
 Asp Asn Val Lys Pro Leu Tyr Ile Ile Thr Pro Thr Asn Val Ser His  
 50 55 60  
 Ile Gln Ser Ala Val Val Cys Gly Arg Arg His Ser Val Arg Ile Arg  
 65 70 75 80  
 Val Arg Ser Gly Gly His Asp Tyr Glu Gly Leu Ser Tyr Arg Ser Leu  
 85 90 95  
 Gln Pro Glu Thr Phe Ala Val Val Asp Leu Asn Lys Met Arg Ala Val  
 100 105 110  
 Trp Val Asp Gly Lys Ala Arg Thr Ala Trp Val Asp Ser Gly Ala Gln  
 115 120 125  
 Leu Gly Glu Leu Tyr Tyr Ala Ile Tyr Lys Ala Ser Pro Thr Leu Ala  
 130 135 140  
 Phe Pro Ala Gly Val Cys Pro Thr Ile Gly Val Gly Gly Asn Phe Ala  
 145 150 155 160

Gly Gly Gly Phe Gly Met Leu Leu Arg Lys Tyr Gly Ile Ala Ala Glu  
 165 170 175

Asn Val Ile Asp Val Lys Leu Val Asp Ala Asn Gly Lys Leu His Asp  
 180 185 190

Lys Lys Ser Met Gly Asp Asp His Phe Trp Ala Val Arg Gly Gly Gly  
 195 200 205

Gly Glu Ser Phe Gly Ile Val Val Ala Trp Gln Val Lys Leu Leu Pro  
 210 215 220

Val Pro Pro Thr Val Thr Ile Phe Lys Ile Ser Lys Thr Val Ser Glu  
 225 230 235 240

Gly Ala Val Asp Ile Ile Asn Lys Trp Gln Val Val Ala Pro Gln Leu  
 245 250 255

Pro Ala Asp Leu Met Ile Arg Ile Ile Ala Gln Gly Pro Lys Ala Thr  
 260 265 270

Phe Glu Ala Met Tyr Leu Gly Thr Cys Lys Thr Leu Thr Pro Leu Met  
 275 280 285

Ser Ser Lys Phe Pro Glu Leu Gly Met Asn Pro Ser His Cys Asn Glu  
 290 295 300

Met Ser Trp Ile Gln Ser Ile Pro Phe Val His Leu Gly His Arg Asp  
 305 310 315 320

Ala Leu Glu Asp Asp Leu Leu Asn Arg Asn Asn Ser Phe Lys Pro Phe  
 325 330 335

Ala Glu Tyr Lys Ser Asp Tyr Val Tyr Gln Pro Phe Pro Lys Thr Val  
 340 345 350

Trp Glu Gln Ile Leu Asn Thr Trp Leu Val Lys Pro Gly Ala Gly Ile  
 355 360 365

Met Ile Phe Asp Pro Tyr Gly Ala Thr Ile Ser Ala Thr Pro Glu Ser  
 370 375 380

Ala Thr Pro Phe Pro His Arg Lys Gly Val Leu Phe Asn Ile Gln Tyr  
 385 390 395 400

Val Asn Tyr Trp Phe Ala Pro Gly Ala Ala Ala Ala Pro Leu Ser Trp  
 405 410 415

Ser Lys Asp Ile Tyr Asn Tyr Met Glu Pro Tyr Val Ser Lys Asn Pro  
                   420                  425                  430

Arg Gln Ala Tyr Ala Asn Tyr Arg Asp Ile Asp Leu Gly Arg Asn Glu  
                   435                  440                  445

Val Val Asn Asp Val Ser Thr Tyr Ala Ser Gly Lys Val Trp Gly Gln  
           450                  455                  460

Lys Tyr Phe Lys Gly Asn Phe Glu Arg Leu Ala Ile Thr Lys Gly Lys  
   465                  470                  475                  480

Val Asp Pro Thr Asp Tyr Phe Arg Asn Glu Gln Ser Ile Pro Pro Leu  
                   485                  490                  495

Ile Lys Lys Tyr  
                   500

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<211> 12

<212> PRT

<213> Dactylus glomerata

<400> 13

Asp Ile Tyr Asn Tyr Met Glu Pro Tyr Val Ser Lys  
   1                  5                  10

<210> 14

<211> 11

<212> PRT

<213> Dactylus glomerata

<400> 14

Val Asp Pro Thr Asp Tyr Phe Gly Asn Glu Gln  
   1                  5                  10

<210> 15

<211> 17



<212> PRT

<213> *Dactylus glomerata*

<400> 15

Ala	Arg	Thr	Ala	Trp	Val	Asp	Ser	Gly	Ala	Gln	Leu	Gly	Glu	Leu	Ser
1				5				10						15	

Tyr

<210> 16

<211> 15

<212> PRT

<213> *Dactylus glomerata*

<400> 16

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1				5				10						15

<210> 17

<211> 11

<212> PRT

<213> *Cynodon dactylon*

<400> 17

Lys	Thr	Val	Lys	Pro	Leu	Tyr	Ile	Ile	Thr	Pro
1			5					10		

<210> 18

<211> 22

<212> PRT

<213> *Cynodon dactylon*

<400> 18

Lys	Gln	Val	Glu	Arg	Asp	Phe	Leu	Thr	Ser	Leu	Thr	Lys	Asp	Ile	Pro
1				5				10						15	

Gln Leu Tyr Leu Lys Ser  
20

<210> 19

<211> 16

<212> PRT

<213> Cynodon dactylon

<400> 19

Thr Val Lys Pro Leu Tyr Ile Ile Thr Pro Ile Thr Ala Ala Met Ile  
1 5 10 15

<210> 20

<211> 24

<212> PRT

<213> Cynodon dactylon

<400> 20

Leu Arg Lys Tyr Gly Thr Ala Ala Asp Asn Val Ile Asp Ala Lys Val  
1 5 10 15

Val Asp Ala Gln Gly Arg Leu Leu  
20

<210> 21

<211> 14

<212> PRT

<213> Cynodon dactylon

<400> 21

Lys Trp Gln Thr Val Ala Pro Ala Leu Pro Asp Pro Asn Met  
1 5 10

<210> 22

<211> 15

<212> PRT

<213> Cynodon dactylon

<400> 22

Val	Thr	Trp	Ile	Glu	Ser	Val	Pro	Tyr	Ile	Pro	Met	Gly	Asp	Lys
1				5					10					15

<210> 23

<211> 19

<212> PRT

<213> Cynodon dactylon

<220>

<221> MISC\_FEATURE

<222> (8)..(8)

<223> undetermined amino acid

<400> 23

Gly	Thr	Val	Arg	Asp	Leu	Leu	Xaa	Arg	Thr	Ser	Asn	Ile	Lys	Ala	Phe
1				5					10					15	

Gly Lys Tyr

<210> 24

<211> 23

<212> PRT

<213> Cynodon dactylon

<400> 24

Thr	Ser	Asn	Ile	Lys	Ala	Phe	Gly	Lys	Tyr	Lys	Ser	Asp	Tyr	Val	Leu
1				5					10					15	

Glu Pro Ile Pro Lys Lys Ser  
20

<210> 25

- 36 -

&lt;211&gt; 13

&lt;212&gt; PRT

&lt;213&gt; Cynodon dactylon

&lt;400&gt; 25

Tyr	Arg	Asp	Leu	Asp	Leu	Gly	Val	Asn	Gln	Val	Val	Gly
1				5					10			

&lt;210&gt; 26

&lt;211&gt; 15

&lt;212&gt; PRT

&lt;213&gt; Cynodon dactylon

&lt;400&gt; 26

Ser	Ala	Thr	Pro	Pro	Thr	His	Arg	Ser	Gly	Val	Leu	Phe	Asn	Ile
1				5					10					15

&lt;210&gt; 27

&lt;211&gt; 36

&lt;212&gt; PRT

&lt;213&gt; Cynodon dactylon

&lt;400&gt; 27

Ala	Ala	Ala	Ala	Leu	Pro	Thr	Gln	Val	Thr	Arg	Asp	Ile	Tyr	Ala	Phe
1				5					10					15	

Met	Thr	Pro	Tyr	Val	Ser	Lys	Asn	Pro	Arg	Gln	Ala	Tyr	Val	Asn	Tyr
			20					25					30		

Arg	Asp	Leu	Asp
		35	

&lt;210&gt; 28

&lt;211&gt; 14

&lt;212&gt; PRT

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